

Add A PreAmp On/Off Switch to Pioneer PL-990 (ca. 2014 Model)

D. MCDONALD

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BACKGROUND

- Pioneer PL-990 Turntable has a built-in PreAmplifier
 - This is useful for many because the Turntable Output is already amplified, and it can be connected to AUX or CD (Line Level) Inputs
- If a PreAmplifier is NOT present in a turntable, then the output from the turntable must be amplified before it becomes “Line Level” and useful.
 - **Old-School Amplifiers have a “Phono” Input for this express purpose**
- Vintage Turntables do not have built-in PreAmplifiers, and Vintage Amplifiers always had a “Phono” input that would appropriately amplify the raw output signal from a turntable.

BACKGROUND

- Why would one need or want a switch?
 - If you want to connect this turntable to the “Phono” input of your vintage amplifier and have it work correctly, then a switch will help...
 - If you don’t like the PreAmplifier included with this Turntable and want to use one of your own choosing, then a switch will help...
 - If you just want to have a turntable, and just want to listen to sounds from vinyl LPs, and don’t have an amplifier with a “Phono” input that you want to use, then this switch doesn’t really matter.
- If you are more than a little picky about the quality of sounds you listen to, or if you care about the quality of the hardware you use to produce these sounds then you probably won’t have a turntable like this, and then this switch doesn’t really matter.

BACKGROUND

- It appears that this Turntable model was designed with the capability of having a PreAmp On/Off switch.
 - This option seems to have only been enabled rarely, if ever.
 - There is a hole molded in the plastic below the platter which allows access to the PreAmp PCB where a switch would have been/could have been installed
 - The PCB includes a location for a switch and nearly all of the electrical traces necessary for such a switch
- Note that the PreAmplifier PCB in my turntable unit is significantly different from the one described in a service manual available online.
 - But the provision for a switch is available on both versions.
 - My Turntable's PreAmp is based on a TI-DRV602 chip.

A LOOK AT WHERE THE SWITCH SHOULD BE



- 1. Remove Top Cover



- 2. Remove Pad,
Rotate Platter

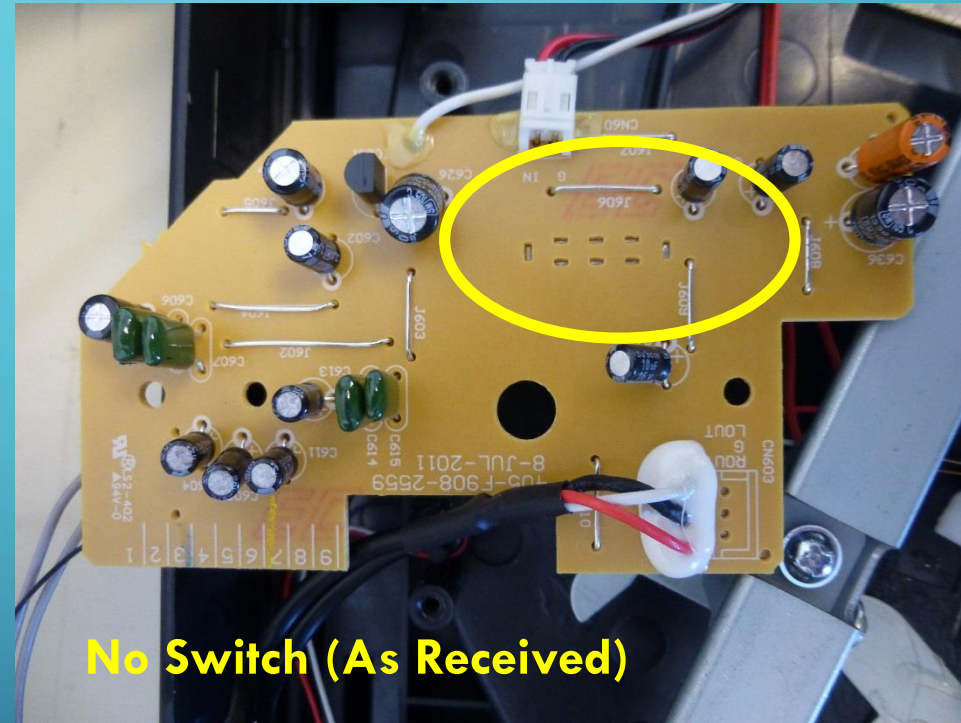


- 3. Look Here
(No Switch!)

A LOOK AT WHERE THE SWITCH SHOULD BE



- Look Here (No Switch!)



No Switch (As Received)

- Look Here (No Switch!)

WHAT TO DO (SUMMARY)

- Dismantle Turntable, to gain access to PreAmp PCB
- Remove some jumpers from the PCB
 - Some jumpers are present which make the PCB Default to PreAmp Always-On
- Install some additional jumpers to the PCB
 - Some jumpers will be needed to complete the electrical pathways for the unamplified signal
- Install an appropriate switch into the position provided
- Reassemble Turntable

MY MODEL IDENTIFICATION

- Pioneer PL-990
- Mfr Date: Jan-2014
- Made in China





DISMANTLE THE TURNTABLE

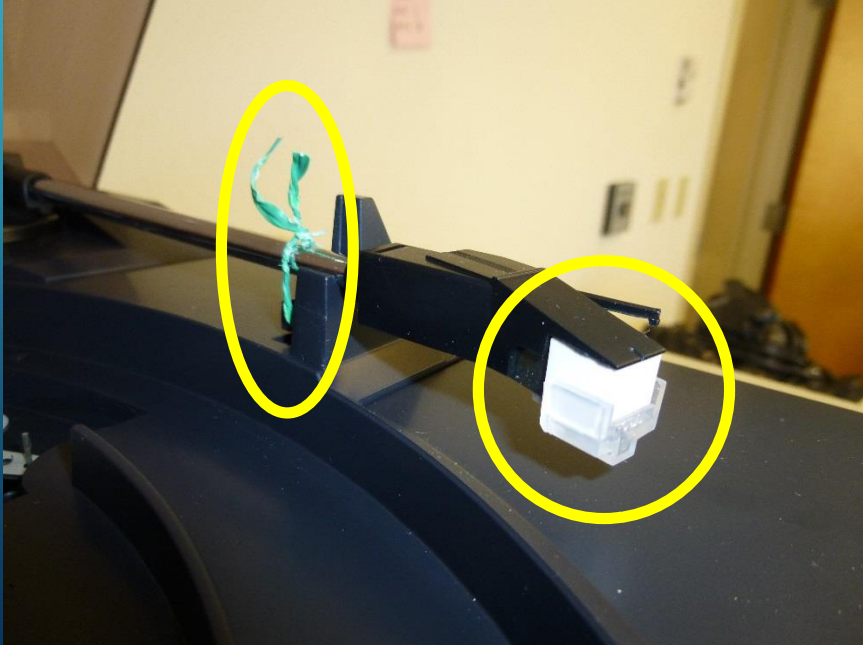
REMOVE THE PLATTER

- Unhook the Belt
- Then Pull the Platter straight up



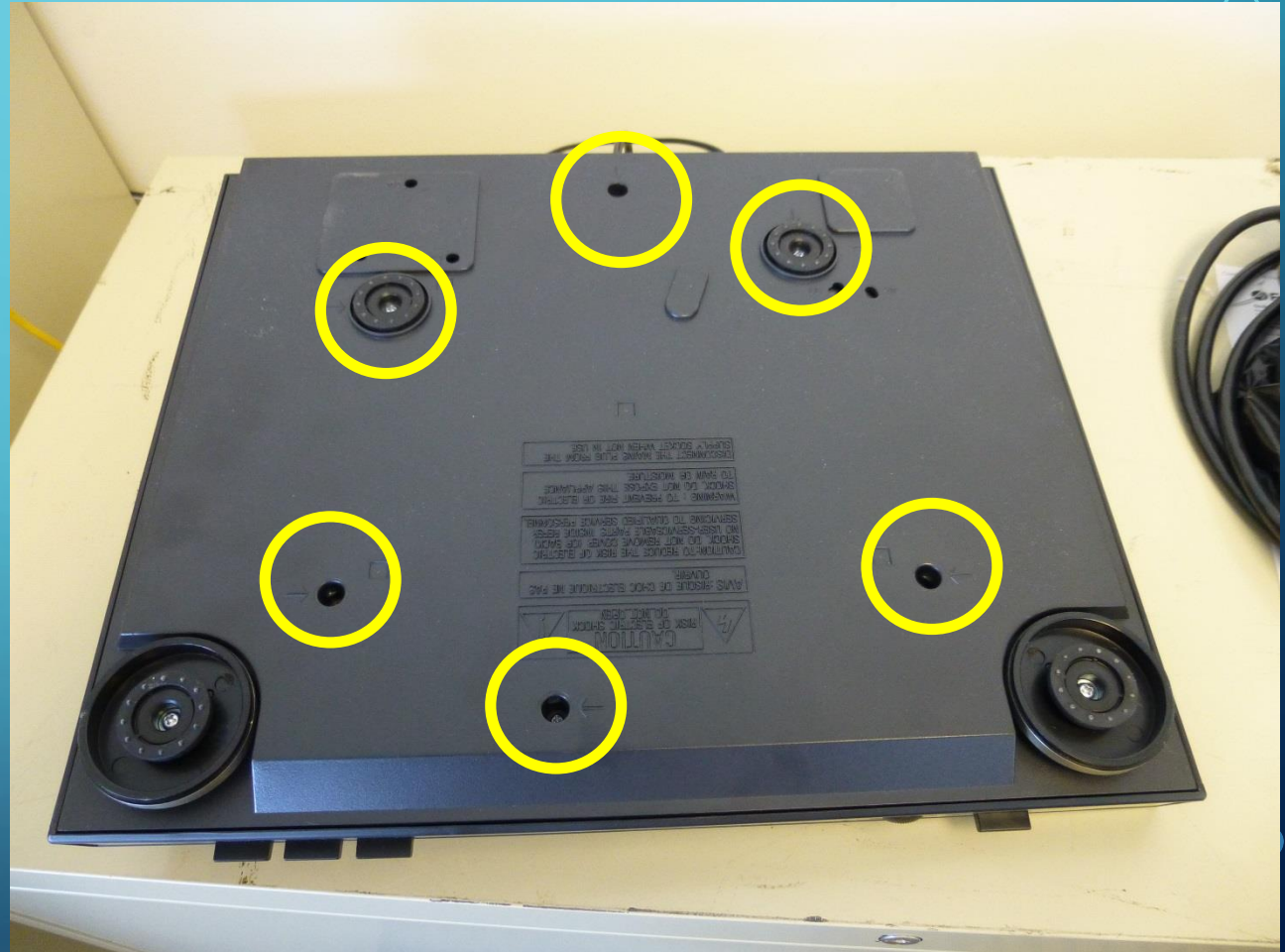
TAKE CARE OF THE LOOSE BITS

- Fix the Tone Arm
- Put the Needle Guard On
- Remove the 45 Adapter



REMOVE THE BOTTOM PLASTIC CASE

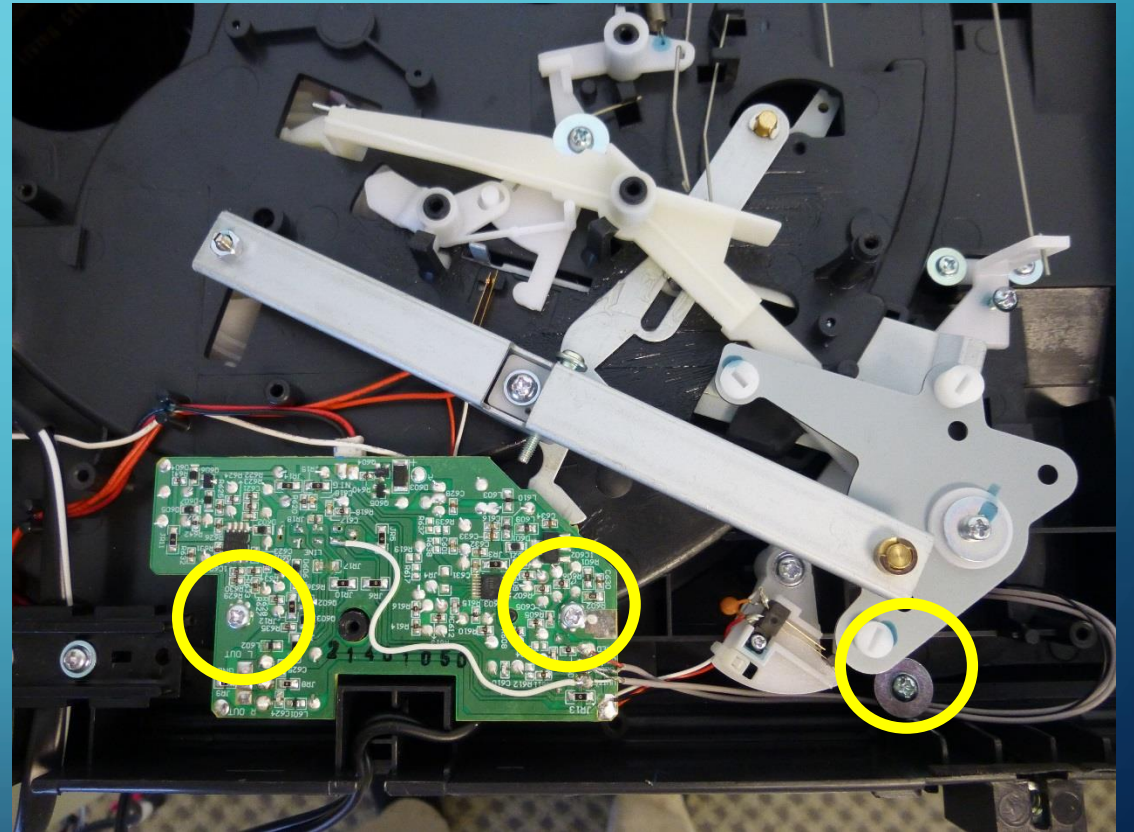
- Remove the (6) screws with arrows pointing to them
- Take off the Bottom Cover



LOCATE THE AMPLIFIER BOARD

- There are 3 screws to remove in order to gain better access to the board.

Note: This is an “After” photo, with my white wire jumper installed already.

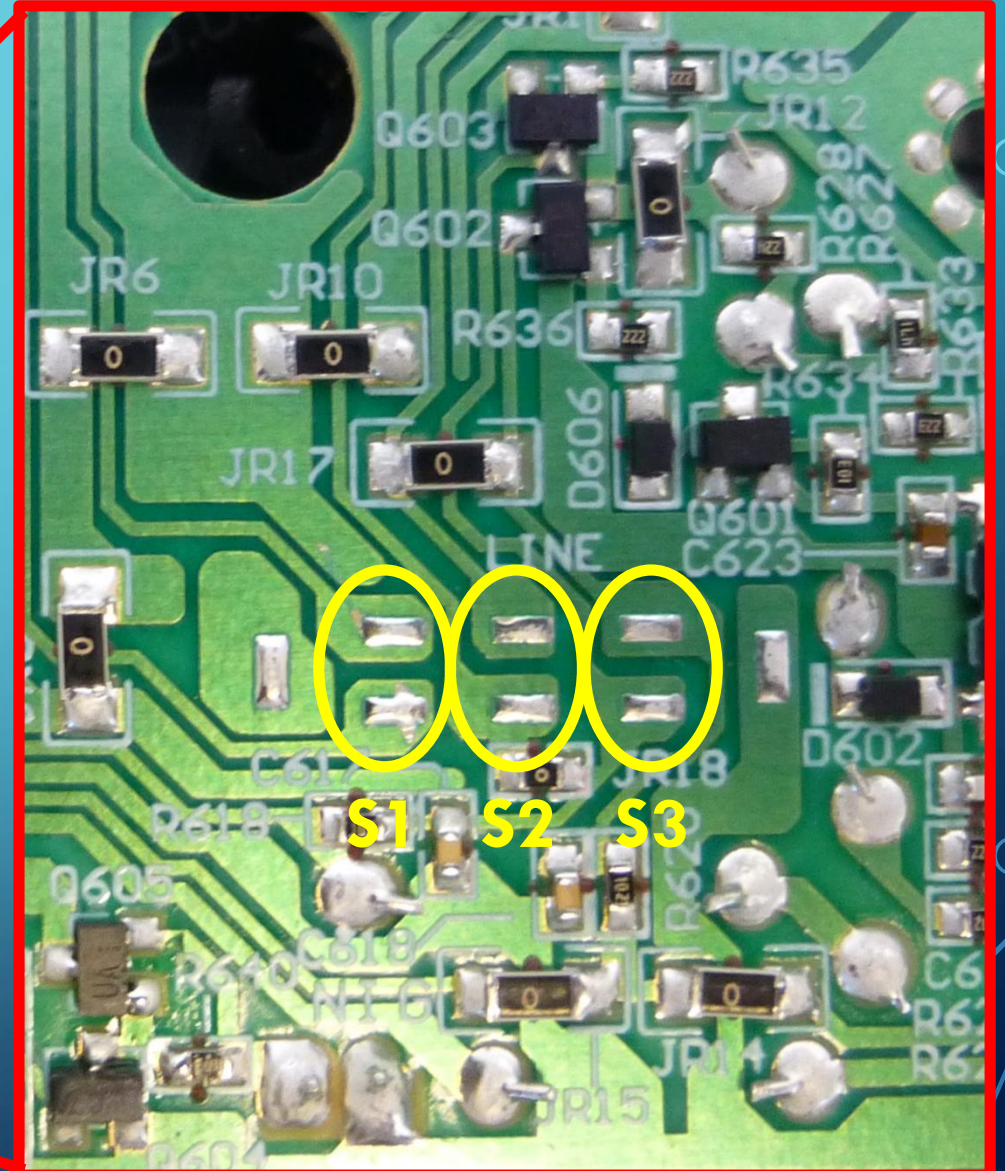
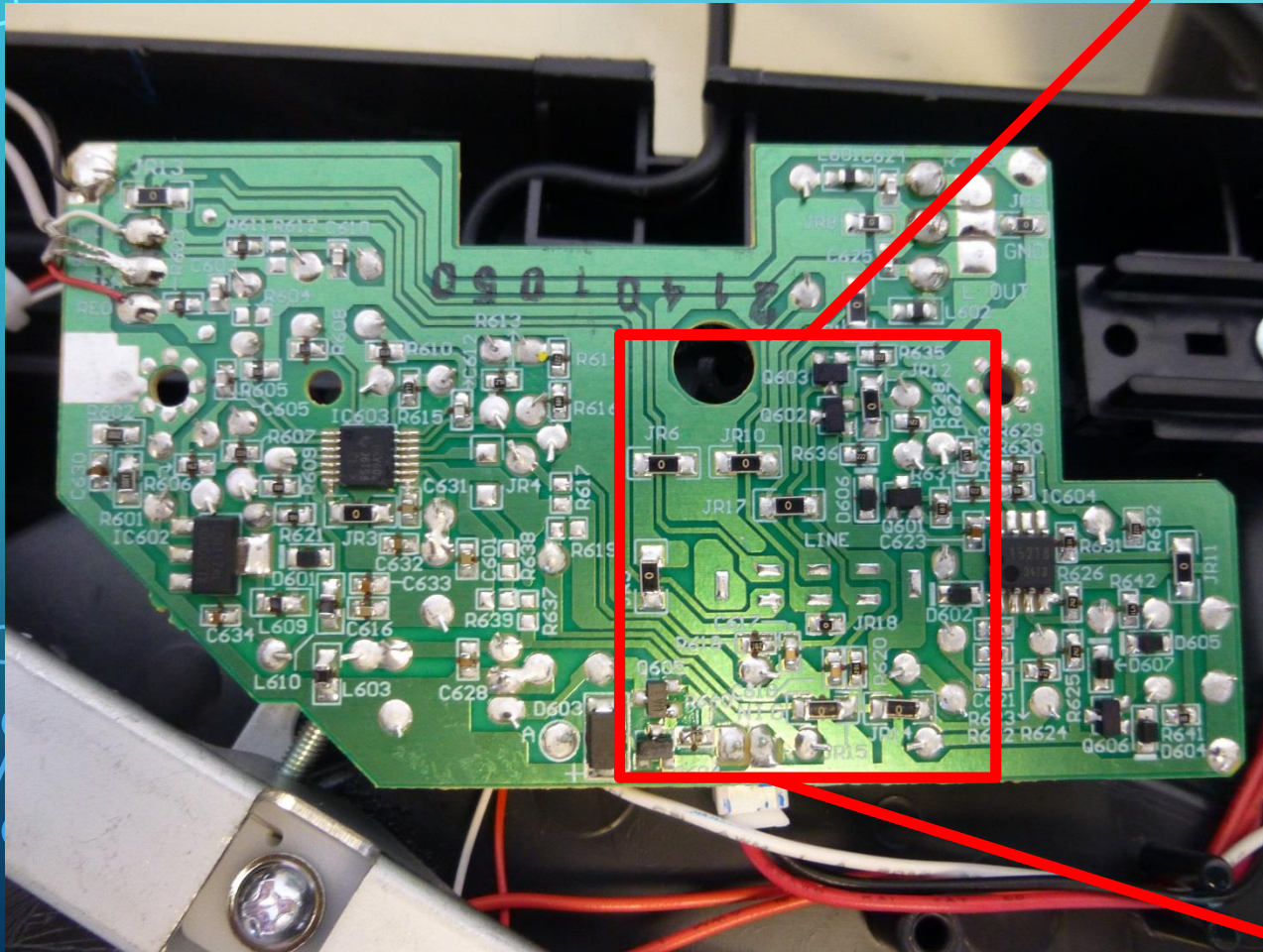




ABOUT THE SWITCH CONNECTIONS

Switch Contact Info (Top Row = Left Channel, Bottom Row = Right):

- S1 = Unamplified, From Cartridge Input
- S2 = Output to External RCA Connectors
- S3 = Amplified, from PreAmp Circuit



The background is a blue gradient with decorative white circuit lines in the corners. The lines consist of straight segments and small circles, resembling a printed circuit board layout.

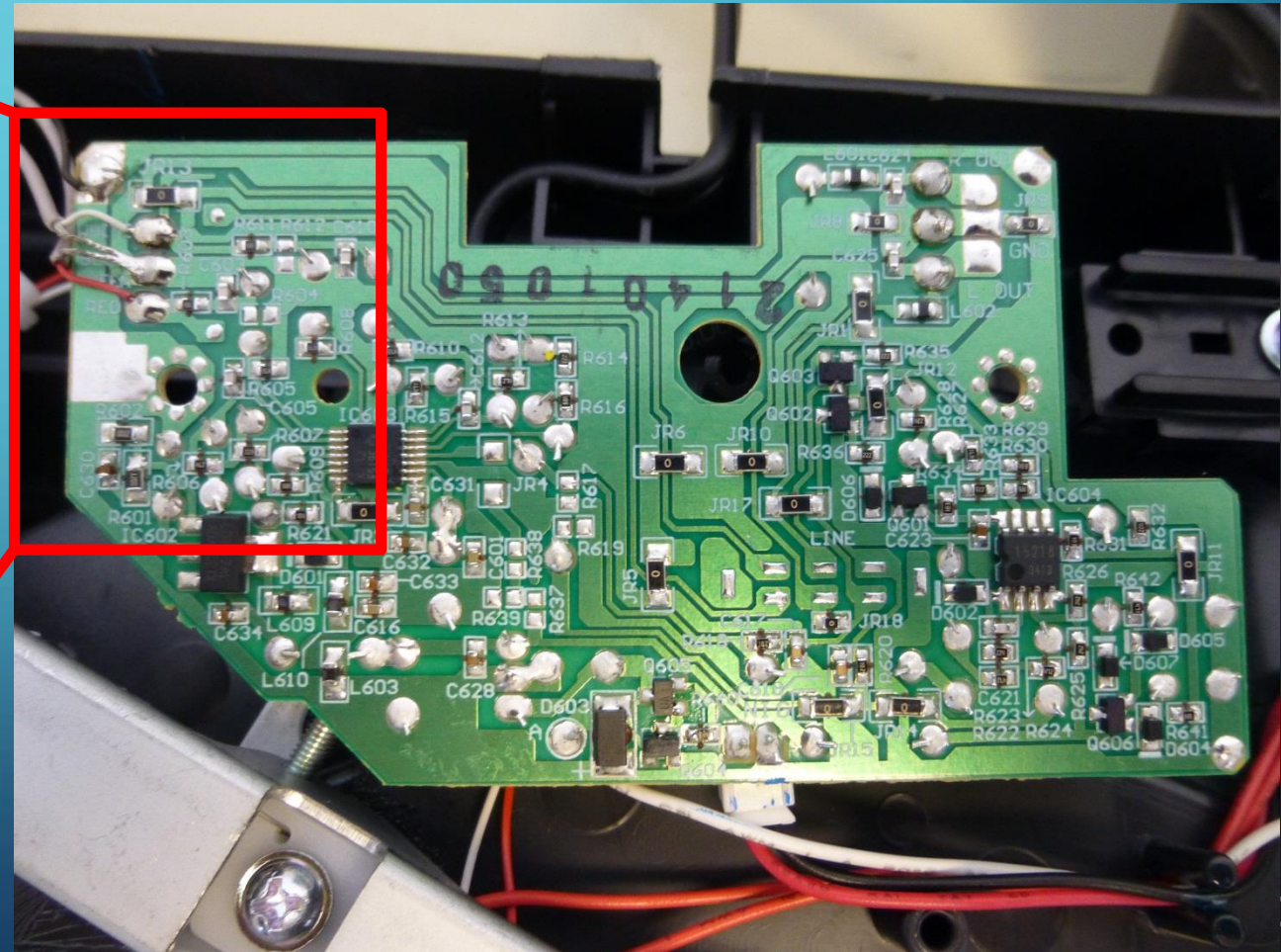
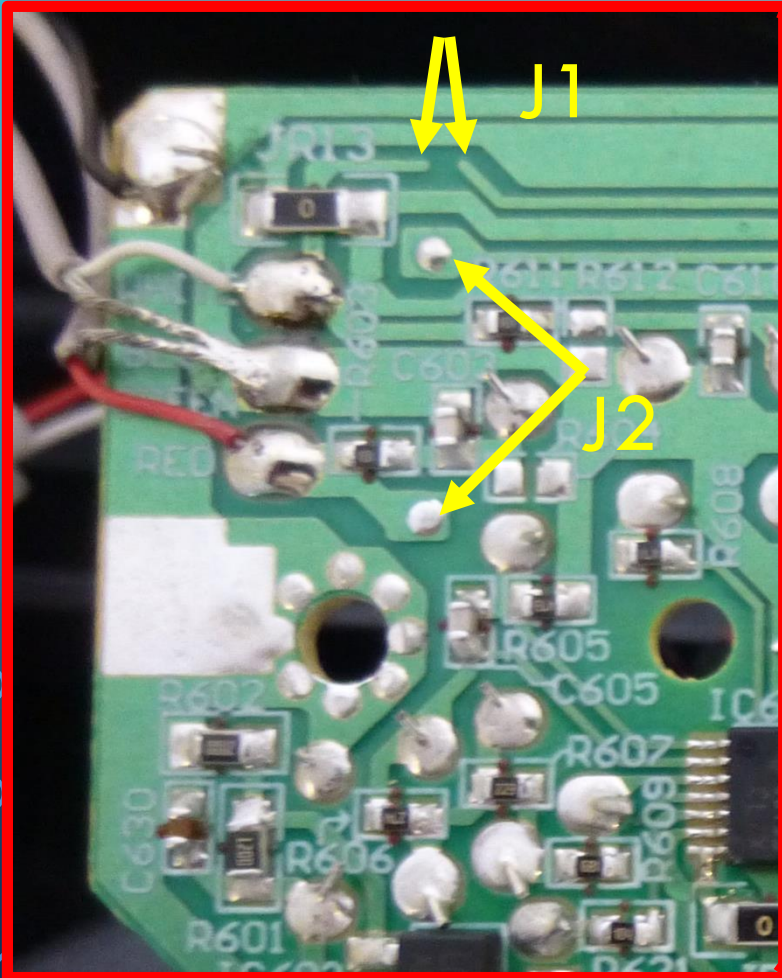
REMOVE 2 JUMPERS FROM THE PCB

The background is a blue gradient with decorative white circuit lines in the corners. The top-left corner features a cluster of lines and circles. The top-right corner has a few lines and a circle. The bottom-left corner has a more complex circuit-like structure with multiple lines and circles. The bottom-right corner has a few lines and a circle.

ADD 2 JUMPERS TO THE PCB

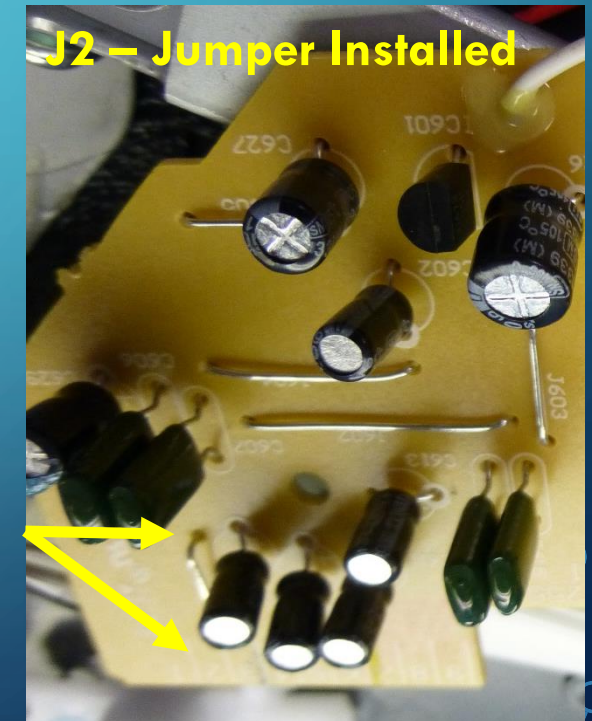
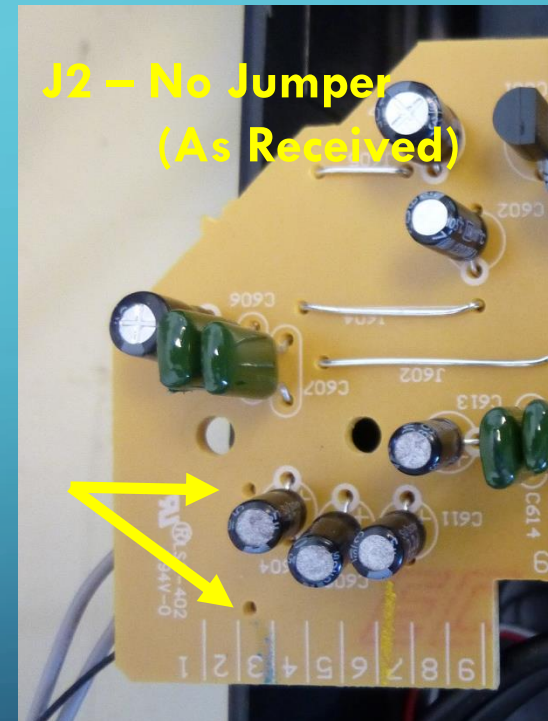
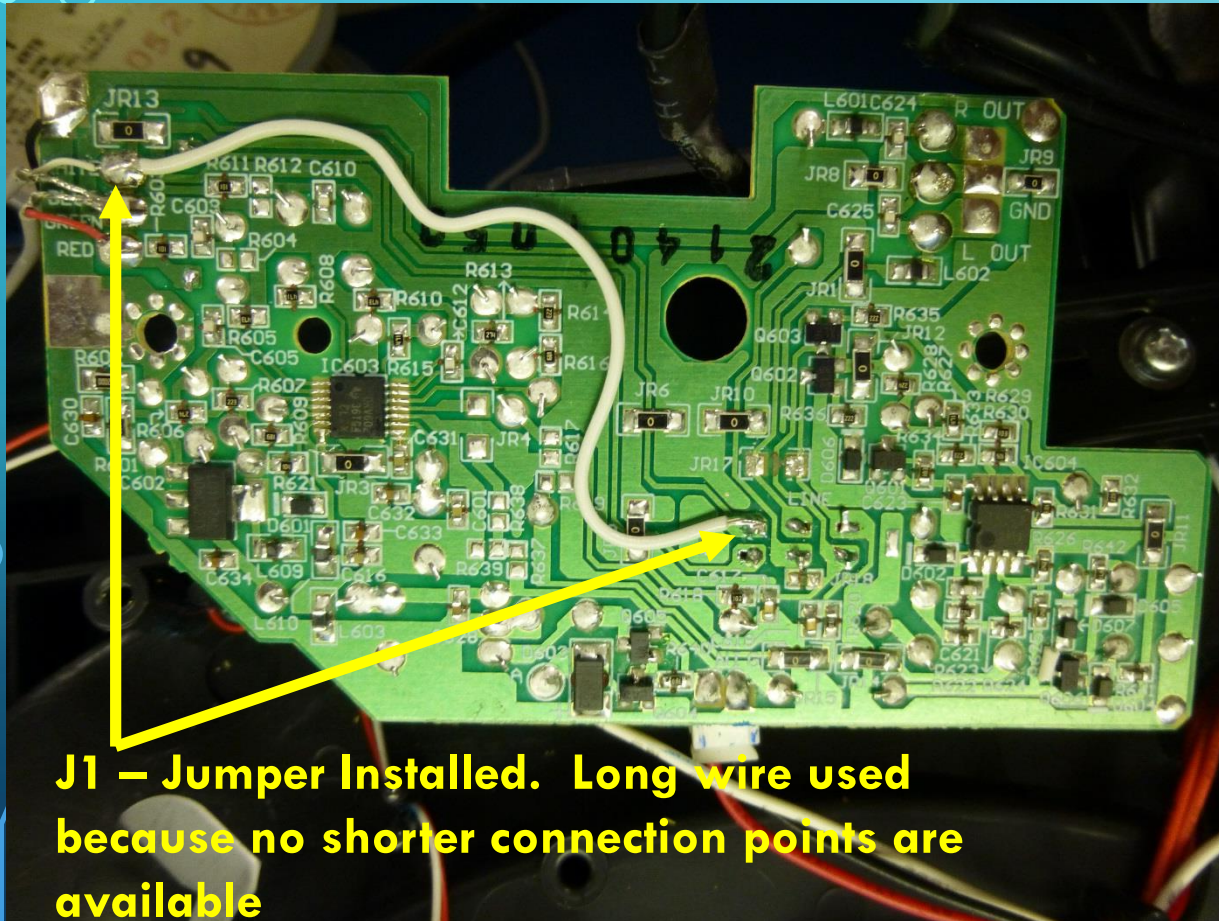
Add Jumpers for L/R Unamplified Inputs

- Jumper these two pairs of points, so the unamplified input signal can reach the switch location



Add Jumpers for L/R Unamplified Inputs

- Jumpers Installed

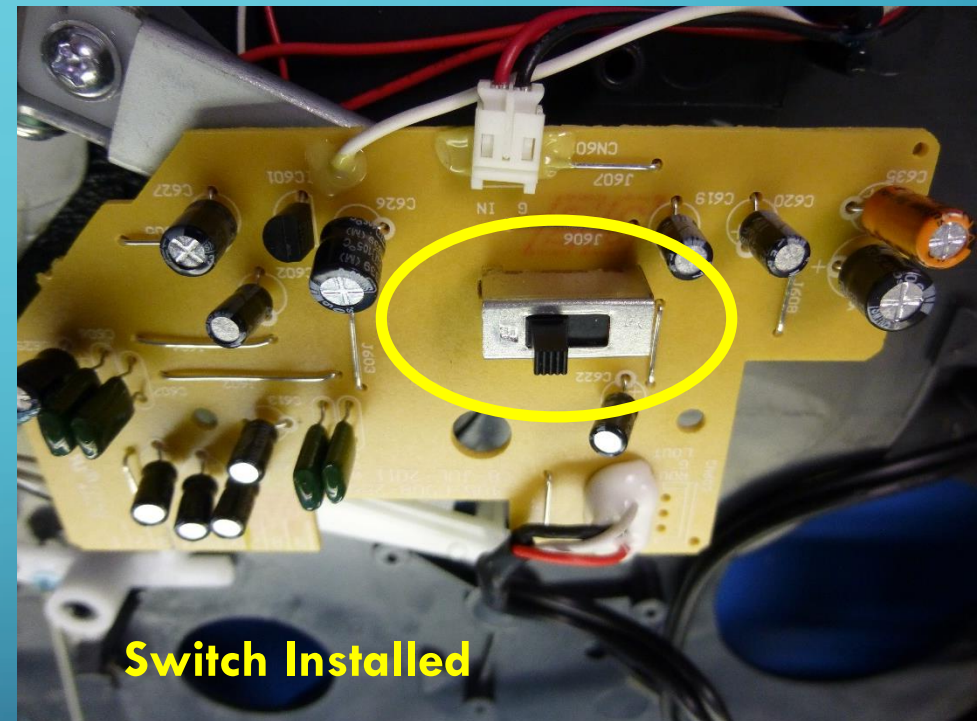
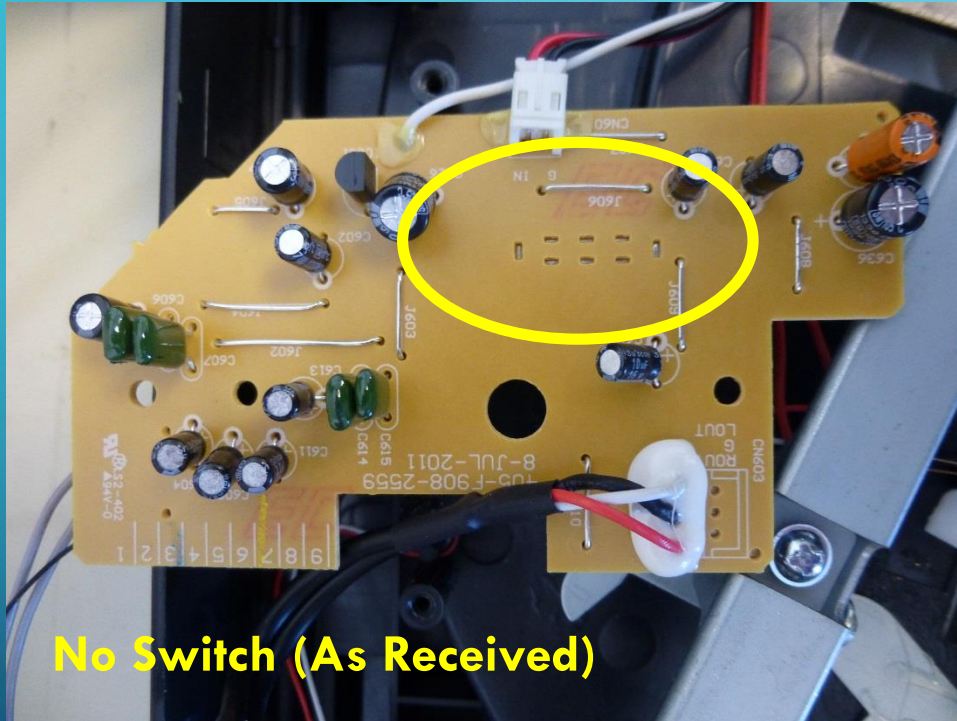


The background is a blue gradient with decorative white circuit-like lines in the corners. These lines consist of straight segments and small circles, resembling a printed circuit board layout. They are located in the top-left, top-right, bottom-left, and bottom-right corners.

INSTALL AN APPROPRIATE SWITCH

- Switch Installed

- I was able to find this switch in my “junk pile,” and it fit very well.

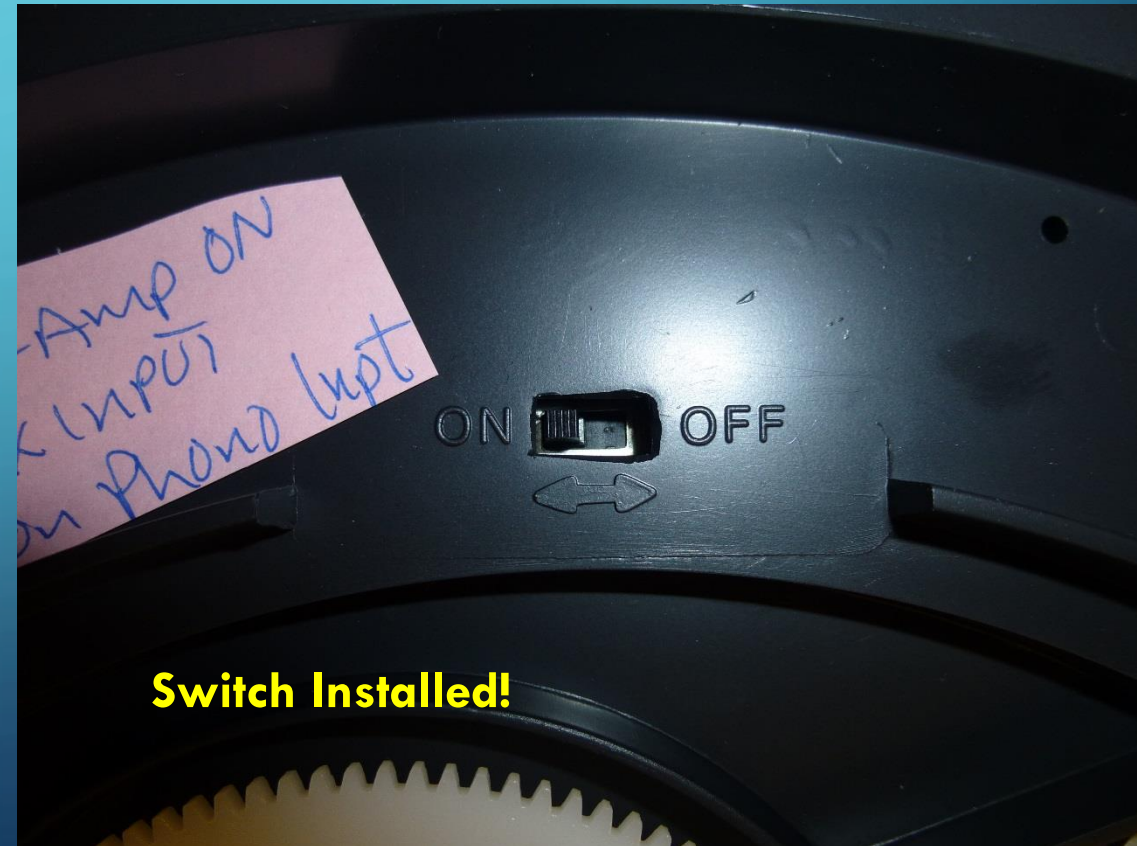




REASSEMBLE THE TURNTABLE

REASSEMBLE THE TURNTABLE

- Don't forget to hook up the Belt when you put the Platter back on
- Now you can connect this turntable to...
 - AUX/CD input → Internal Amp "ON"
 - Phono input → Internal Amp "OFF"



Switch Installed!